

JUN 05 2009

Application Serial No. 10/536,695
Attorney Docket No. 8156/84334
Page 2

IN THE CLAIMS:

1. (Cancelled)

2. (Cancelled)

3. (Previously presented) A process for producing a luminescent glass selected from the group consisting of:

(i) a process comprising the steps of adsorbing, to a porous high silica glass, at least one metal component selected from the group consisting of V, Cr, Mn, Fe, Co, Ni, Cu, Ag, Sn, Eu, Ce and Tb; and thereafter heating the porous glass in a reducing atmosphere,

(ii) a process comprising the steps of adsorbing, to a porous high silica glass, at least one metal component selected from the group consisting of elements of Groups IVA, VA, VIA, VIIA, VIII, IB, IIB and IVB of the Periodic Table; and thereafter heating the porous glass in a reducing atmosphere, and

(iii) a process comprising the steps of adsorbing, to a porous high silica glass, at least one metal component selected from the group consisting of elements of Groups IIIA, IVA, VA, VIA, VIIA, VIII, IB, IIB and IVB of the Periodic Table; further adsorbing, to the porous glass, at least one element selected from the group consisting of B, N, F, Al, P and S; and thereafter heating the porous glass in a reducing atmosphere.

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

Application Serial No. 10/536,695
Attorney Docket No. 8156/84334
Page 3

7. (Cancelled)
8. (Cancelled)
9. (Cancelled)

10. (Currently amended) A luminescent glass obtained by a process comprising the steps of adsorbing, to a porous high silica glass, at least one metal component selected from the group consisting of Sc, Y, La, Pr, Nd, Pm, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, and elements of Groups IIIA, IVA, VA, VIA, VIIA, VIII, [[IIB,]] IIB and IVB of the Periodic Table; and thereafter heating the porous glass in a reducing atmosphere[[:]], the luminescent glass comprising at least 96 wt.% of SiO₂, 0.5 to 3 wt.% of B₂O₃, 0.1 to 1.5 wt.% of Al₂O₃, and 50 to 2000 ppm of at least one metal component selected from the group consisting of Sc, Y, La, Pr, Nd, Pm, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, and elements of Groups IIIA, IVA, VA, VIA, VIIA, VIII, [[IIB,]] IIB and IVB of the Periodic Table.

11. (Cancelled)
12. (Cancelled)
13. (Cancelled)

14. (Previously presented) A luminescent glass according to Claim 10, wherein the metal component to be adsorbed to the porous high silica glass is at least one member selected from the group consisting of elements of the fourth period of the Periodic Table, elements of the fifth period of the Periodic Table, and lanthanoids.

Application Serial No. 10/536,695
Attorney Docket No. 8156/84334
Page 4

15. (Currently amended) A luminescent glass according to Claim 14, wherein the metal component to be adsorbed to the porous high silica glass is at least one member selected from the group consisting of V, Cr, Mn, Fe, Co, Ni, ~~Cu, Ag, Sn, Eu, Ce~~ and Tb.

16. (Currently amended) A luminescent glass according to Claim 10, wherein the metal component to be adsorbed to the porous high silica glass is ~~a rare earth element or elements~~ at least one metal component selected from the group consisting of Sc, Y, La, Pr, Nd, Pm, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu.

17. (Currently amended) A luminescent glass according to Claim 10, wherein the metal component to be adsorbed to the porous high silica glass is at least one metal component selected from the group consisting of elements of Groups IVA, VA, VIA, VIIA, VIII, ~~[[IB,]]~~ IIB and IVB of the Periodic Table.

18. (Previously presented) A luminescent glass according to Claim 10, wherein the heating temperature is 900 to 1600°C.

19. (Currently amended) A luminescent glass according to Claim 10, obtained by the process which further comprises, before the heating step, the step of adsorbing, to the porous glass, at least one element selected from the group consisting of B, N, F, Al, and P and S.

20. (Previously presented) A luminescent glass according to Claim 10, wherein the porous high silica glass is obtained by causing phase separation of an alkali borosilicate glass by heat treatment and then treating the phase-separated glass with an acid.

Application Serial No. 10/536,695
Attorney Docket No. 8156/84334
Page 5

21. (Currently amended) A lighting system for use in water or air, comprising a luminescent glass and an ultraviolet light source[[]], the luminescent glass being obtained by a process comprising the steps of adsorbing, to a porous high silica glass, at least one metal component selected from the group consisting of elements of Groups IIIA, IVA, VA, VIA, VIIA, VIII, IB, IIB and IVB of the Periodic Table[[]], and thereafter heating the porous glass in a reducing atmosphere.

22. (Previously presented) A lighting system according to Claim 21, wherein the luminescent glass is obtained by the process which further comprises, before the heating step, the step of adsorbing, to the porous glass, at least one element selected from the group consisting of B, N, F, Al, P and S.

23. (Currently amended). A lighting system comprising a luminescent glass disposed in water; an ultraviolet light source placed outside water; and an optical fiber provided so that one end of the optical fiber connected to the ultraviolet light source and the other end is located in the vicinity of the luminescent glass[[]], the luminescent glass being obtained by a process comprising the steps of adsorbing, to a porous high silica glass, at least one metal component selected from the group consisting of elements of Groups IIIA, IVA, VA, VIA, VIIA, VIII, IB, IIB and IVB of the Periodic Table[[]], and thereafter heating the porous glass in a reducing atmosphere.

24. (Previously presented). A lighting system according to Claim 23, wherein the luminescent glass is obtained by the process which further comprising, before the heating step, the step of adsorbing, to the porous glass, at least one element selected from the group consisting of B, N, F, Al, P and S.

25. (Previously presented). A display device comprising, as a luminous body, a luminescent glass obtained by a process comprising the steps of adsorbing, to a porous

Application Serial No. 10/336,695
Attorney Docket No. 8156/84334
Page 6

high silica glass, at least one metal component selected from the group consisting of elements of Groups IIIA, IVA, VA, VIA, VIIA, VIII, IB, IIB and IVB of the Periodic Table; and thereafter heating the porous glass in a reducing atmosphere.

26. (Previously presented) A display device according to Claim 25, wherein the luminescent glass is obtained by the process which further comprises, before the heating step, the step of adsorbing, to the porous glass, at least one element selected from the group consisting of B, N, F, Al, P and S.